

# Miniaturized, Multi-Analyte Sensor Array for the Automated Monitoring of Major Atmospheric Constituents in Spacecraft Environment, Phase I

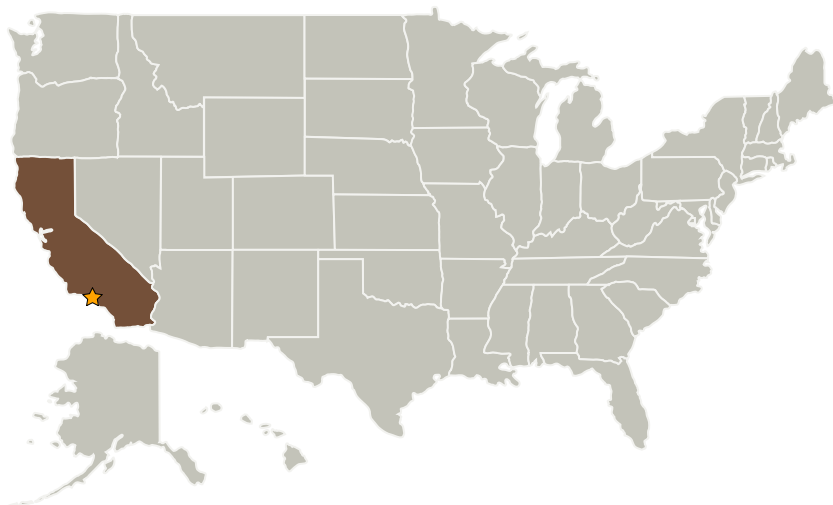
Completed Technology Project (2009 - 2009)



## Project Introduction

InnoSense LLC (ISL) proposes to develop a miniaturized, multi-analyte sensor for near real-time monitoring of analytes in the spacecraft environment. The proposed innovations will build on ISL's past NASA SBIR project to develop an oxygen sensor for aircraft fuel tanks and DOE funded project to develop a carbon dioxide sensor for unattended remote deployment. In this project ISL will incorporate the disparate sensors on a single chip and develop a space-worthy sensor array. Through iterative development, ISL will expand capabilities of the system to monitor chemical, microbial and particulate content in the spacecraft environment. The proposed Phase I studies will demonstrate the sensor array approach by detecting oxygen, carbon dioxide and moisture simultaneously at the low parts per million (ppm) levels with a signal to noise ratio (SNR) of at least 3. A prototype sensor array system will be constructed and field-tested during Phase II. To assure success of this project, InnoSense LLC has assembled an engineering team with a cumulative 80 person-years of experience in developing commercially viable optical sensor systems.

## Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory (JPL)	Lead Organization	NASA Center	Pasadena, California
Innosense, LLC	Supporting Organization	Industry Minority-Owned Business, Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB)	Torrance, California

## Primary U.S. Work Locations

California

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

## Technology Areas

### Primary:

- TX13 Ground, Test, and Surface Systems
  - ↳ TX13.1 Infrastructure Optimization
  - ↳ TX13.1.3 Commodity Recovery